

September 23, 2019

Arcelor Mittal USA, Inc.
250 W US Highway 12
Burns Harbor, IN 46304-9745

Work Order No.: 19I0694

Re: LLHg - 001

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 3 sample(s) on 9/12/2019 10:00:00AM for the analyses presented in the following report as Work Order 19I0694.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.



Carey Gadzala
Project Manager



WORK ORDER SAMPLE SUMMARY**Date:** *Monday, September 23, 2019*

Client: Arcelor Mittal USA, Inc.**Project:** LLHg - 001**Lab Order:** 19I0694

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19I0694-01	Field Blank		09/12/2019 07:57	9/12/2019 10:00:00AM
19I0694-02	001-Grab	001	09/12/2019 08:00	9/12/2019 10:00:00AM
19I0694-03	001- DUP	001	09/12/2019 08:00	9/12/2019 10:00:00AM

Microbac Laboratories, Inc.

250 West 84th Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | www.microbac.com

CASE NARRATIVE**Date:** *Monday, September 23, 2019*

Client: Arcelor Mittal USA, Inc.
Project: LLHg - 001
Lab Order: 19I0694

B - the Method Blank contained mercury at a level above the reporting limit. This does not impact the data, as the concentration in the samples were below the reporting limit. This nonconformance is associated with the following samples:

<u>Laboratory ID</u>	<u>Sample Name</u>
19I0694-01	Field Blank
19I0694-03	001- DUP

The average of the three Method Blanks contained mercury above the level required for the reference method. This nonconformance is associated with the following sample:

<u>Laboratory ID</u>	<u>Sample Name</u>
19I0694-02	001-Grab

Analytical Results

Date: Monday, September 23, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0694-01
Client Project:	LLHg - 001	Sampled:	09/12/2019 7:57
Client Sample ID:	Field Blank	Received:	09/12/2019 10:00
Sample Description:			
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: EPA 1631E				Analyst: BTM		
Total Mercury using CVAFS - Heated Preparation									
Prep Date/Time: 09/18/2019 09:09									
Mercury	eijlm	A	0.122	0.118	0.500	BJ	ng/L	1	09/19/2019 12:14

Analytical Results

Date: *Monday, September 23, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0694-02
Client Project:	LLHg - 001	Sampled:	09/12/2019 8:00
Client Sample ID:	001-Grab	Received:	09/12/2019 10:00
Sample Description:	001		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: EPA 1631E			Analyst: BTM			
Total Mercury using CVAFS - Heated Preparation									
Prep Date/Time: 09/18/2019 09:09									
Mercury	eijlm	A	0.518	0.118	0.500	B	ng/L	1	09/19/2019 12:17

Analytical Results

Date: *Monday, September 23, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19I0694-03
Client Project:	LLHg - 001	Sampled:	09/12/2019 8:00
Client Sample ID:	001- DUP	Received:	09/12/2019 10:00
Sample Description:	001		
Matrix:	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: EPA 1631E			Analyst: BTM			
Total Mercury using CVAFS - Heated Preparation									
Prep Date/Time: 09/18/2019 09:09									
Mercury	eijlm	A	0.435	0.118	0.500	BJ	ng/L	1	09/19/2019 12:19

ANALYTE TYPES: (AT)

A, B = Target Analyte

I = Internal Standard

M = Summation Analyte

S = Surrogate

T = Tentatively Identified Compound (TIC, concentration estimated)



QC SAMPLE IDENTIFICATIONS

BLK = Method Blank

DUP = Method Duplicate

BS = Method Blank Spike

MS = Matrix Spike

ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank

CRL = Client Required Reporting Limit

PDS = Post Digestion Spike

QCS = Quality Control Standard

ICSA = Interference Check Standard "A"

ICSAB = Interference Check Standard "AB"

BSD = Method Blank Spike Duplicate

MSD = Matrix Spike Duplicate

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

OPR = Ongoing Precision and Recovery Standard

SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

^d Illinois EPA drinking water, wastewater and solid waste analysis (#200064)

ⁱ Kansas Dept Health & Env. NELAP (#E-10397)

^j Kentucky Wastewater Laboratory Certification Program (#108202)

^l North Carolina DENR NPDES effluent, surface water (#597)

^m New York State Department of Health (#12006)

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

B:	The target analyte was detected in the method blank at or above the reported quantitation limit.
J:	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
MDL:	Minimum Detection Limit
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler

Temp: °C
 MICROBAC®

Cooler Inspection Checklist

Ice Present or not required?	Yes
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct type of Containers Received	Yes
Correct number of containers listed on COC?	Yes
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes

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